

SYSTEM FOR DYNAMIC AND AUTOMATIC BUILDING MAPPING

Abstract

The automatic building mapping system comprises a tracker module that can be carried by a user and an optional command module which operate to automatically map the rooms of a building as a user traverses the rooms of the building. The tracker module includes a transducer system that determines the present distance from the user to each of the walls of the room, the location of openings in the walls as well as an inertial guidance system that precisely locates the user with respect to a known reference point. The data produced by the tracker module of the automatic building mapping system can be transmitted to a centrally located command module so that multiple units can simultaneously be tracked and a mapping of the building effected from different perspectives to thereby create an accurate composite layout map. In addition, the user can receive a heads-up display to enable the user to visualize the layout of the building as the user traverses the various rooms of the building, and as concurrently mapped by other users in the building. Thus, an accurate virtual map can be created on demand by the users moving through the rooms of the building.